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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,916	03/07/2005	Yasuhiro Omori	JFE-05-1032	7535
35811	7590	12/26/2007	EXAMINER	
IP GROUP OF DLA PIPER US LLP ONE LIBERTY PLACE 1650 MARKET ST, SUITE 4900 PHILADELPHIA, PA 19103			YANG, JIE	
ART UNIT		PAPER NUMBER		
1793				
MAIL DATE		DELIVERY MODE		
12/26/2007		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/526,916	OMORI ET AL.
Examiner	Art Unit	
Jie Yang	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 18 October 2007.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-20 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____. _____	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

Claims 1-20 are pending in application, wherein claim 1 is amended.

Specification is amended.

### ***Status of the Precious Rejection***

The previous rejection of claims 1-12 and 17-20 under 35 U.S.C. 103 (a) as being unpatentable over Ochi et al (US 6,602,358, thereafter '358) in view of Ochi et al (US 6,660,105 B1, thereafter '105) is maintained. The new limitation in view of the applicant's amendment in claim 1 has been addressed as following.

The previous rejections of claims 13-16 are maintained on the same ground under 35 U.S.C. 103(a) as being unpatentable over '358 in view of '105 as applied in claims 1-12, 17-20 and further in view of Kurebayashi et al (JP 10036937, thereafter 'JP937), as stated in the office action of 07/25/2007.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. For this case, both endpoints of Si are disclosed in the instant

claim 1 and specification but not in same range. Amended claim 1 set limitation: "Si: more than 0.4% up to 1.1%", however this is not preferable range of Si for the instant invention because point 0.4% of Si is included in the preferable range of the instant specification (Page 4, lines 1-15, and page 8, 1<sup>st</sup> paragraph of the instant specification).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ochi et al (US 6,602,358, thereafter '358) in view of Ochi et al (US 6,660,105 B1, thereafter '105).

'358 in view of '105 is applied to the claims 1-12, and 17-20, for the same reason as stated in the previous rejection dated 7/25/2007.

Regarding amended limitation in the instant claim 1, "Si: more than 0.4 to 1.1%". '358 teaches a steel performed by induction hardening treatment (Col.2, Line 23-42) with a composition (Claim 1 and 3 of '358) as shown in the following table. '358 does not explicitly teach "Si: more than 0.4% to 1.1%". However '358's composition range Si: 0.40 wt.% is just

out side of range, for example, Si: 0.401wt.% that claimed in instant claim, Refer to 2144.05.I, the instant claim is still rendered obvious by '358.

Element	From instant Claims (in wt%)	'358 (in wt%)	Overlapping range (in wt%)
For claim 1		See claims 1, 3	
C	0.35-0.7	0.45-0.59	0.45-0.59
Si	More than 0.4-1.1	0.15-0.4	--
Mn	0.20-2.0	0.15-0.45	0.2-0.45
Al	0.005-0.25	0.015-0.05	0.015-0.05
Ti	0.005-0.1	0.015-0.03	0.015-0.03
Mo	0.05-0.6	0.1-0.35	0.1-0.35
B	0.0003-0.006	0.0005-0.005	0.0005-0.005
S	0.06 or less	0.005-0.15	0.005-0.06
P	0.02 or less	0.02 or less	0.02 or less
Cr	0.2 or less	0.1 or less	0.1 or less
Fe	Balance	Balance	Balance
For claim 2		'105 See Cl.1,5,8	
Cu	1.0 or less	--	--
Ni	3.5 or less	0.1-3.5	0.1-3.5
Co	1.0 or less	--	--
Nb	0.1 or less	0.022-0.04	0.022-0.04

Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over '358 in view of '105 as applied in claims 1-12, 17-20 and further in view of Kurebayashi et al (JP 10036937, thereafter 'JP937).

'358 in view of '105, and further in view of 'JP937 is applied to the claims 13-16, for the same reason as stated in the previous rejection dated 7/25/2007.

***Response to Arguments***

Applicant's arguments filed on 10/18/2007 with respect to claims 1-20 have been fully considered but they are not persuasive.

Applicant's arguments are summarized as follows:

1, The Si composition of US'358 does not overlap the amended Si range.

2, US'358 does not disclose the claimed structure.

3, US'105 has higher Cr content than Cr range of the instant claim.

4, US'358 does not teach 12 $\mu$ m or less grain size.

5, Proper amount of Si, B, and Cr are important for instant invention.

6, In JP'937's samples, there are no Si and Cr ranges which are within the claimed Si and Cr ranges in one sample.

Responses are as follows:

Regarding the amended Si range in argument 1, please refer to 112 and 103 rejections as discussed above.

Regarding arguments 2-4 and 6, applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the

rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). '358 in view of '105 teaches the limitations of instant claims 1-12 and 17-20, while '358 in view of '105 and further in view of JP'937 teaches the limitations of instant claims 13-16. The motivations for combine these references can refer to office action marked 7/25/2007.

Regarding argument 5 and still regarding argument 6, the composition discussions can refer to above 103 rejections and rejections in the office action marked 7/25/2007.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jie Yang whose telephone number is 571-270-1884. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY

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